CLAIMS

1. Device (1) for fixing a fiber (2) comprising a rigid and brittle core (24) surrounded by a mechanically deformable cladding (22), said fiber (2) possibly being subjected to at least one mechanical stress, characterized in that said clamping device (1) comprises several jaws (4) distributed around a main axis (6) of this device (1), each jaw (4) comprising an inner surface (14, 114) composed of a central portion (16, 116) and two end portions (18, 20, 118, 120), said end portions (18, 20, 118, 120) being made so as to prolong the central portion (16, 116) by gradually moving away from the main axis (6) of said device (1), each remaining at least partly in contact with the mechanically deformable cladding (22) when said jaw (4) occupies a clamped position.

2. Clamping device (1) according to claim 1, characterized in that for each jaw (4), the end portions (118, 120) are surfaces for which a section defined by any plane passing through the main axis (6) of the device (1) is a line segment.

3. Clamping device (1) according to claim 1, characterized in that for each jaw (4), the end portions (18, 20) are surfaces for which a section defined by any plane passing through the main axis (6) of the device (1) is a curved line.

4. Clamping device (1) according to any one of the above claims, characterized in that the inner surface (14, 114) of each jaw (4) is a surface with no sharp angle.

5. Clamping device (1) according to any one of the above claims, characterized in that for each jaw (4), the inner surface (14) is a surface for which a section defined by any plane perpendicular to the main axis (6) of the device (1) is an arc of circle with a radius greater than the nominal outside radius of the mechanically deformable cladding (22).

6. Clamping device (1) according to any one of claims 1 to 4, characterized in that the inner surface (114) of each jaw (4) is a surface for which a section defined by any plane perpendicular to the main axis (6) of the device (1) is a line segment.

7. Clamping device (1) according to any one of the above claims, characterized in that when the jaws (4) are in their clamped position, a section through the inner surfaces (14, 114) defined by any plane perpendicular to the main axis (6) of the device (1) is a closed line.

8. Clamping device (1) according to any one of the above claims, characterized in that when each jaw (4) is in its clamped position, only the mechanically deformable cladding (22) of the fiber (2) is deformed.

9. Clamping device (1) according to any one of the above claims, characterized in that when each jaw (4) is in its clamped position, only part of each end portion (18, 20, 118, 120) is in contact with the mechanically deformable cladding (22) of the fiber (2).

10. Clamping device (1) according to any one of the above claims, characterized in that the jaws (4) of said device (1) are metallic jaws.

11. Clamping device (1) according to any one of the above claims, characterized in that each jaw (4) also comprises an outer surface (10) in the form of a conical portion, each outer surface (8) cooperating with a complementary conical inner surface (12) provided on a jaw support (8) of said device (1).

12. Clamping device (1) according to any one of the above claims, characterized in that it is capable of holding an optical fiber.

13. Clamping device (1) according to any one of the above claims, characterized in that it can be used in a strain gage and/or in a Bragg grating optical fiber sensor.